AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0036] of the specification, as published, as follows:

[0036] The bottom layer 100 includes ROIC substrates 101, 111, 121, 131, 141 and 151 (hereinafter collectively referred to as "1X1") and reflective metal layers 102, 112, 122, 132, 142 and 152 (hereinafter collectively referred to as "1X2") thereon. The reflective metal layers 1X2 are made of a material selected from the group consisting of Ti, Al and Al alloy. The thickness of the reflective metal layer is preferably between 2000Å and 5000Å for Ti, and between 500Å and 10000Å for Al or Al alloy. A first buffer layer 113, 123 ~~(not shown in Figs. 4, 7, 8 and 11)~~ comprising a silicon nitride (SiN_x) layer may be either between the ROIC substrates 1X1 and the reflective metal layers 1X2 or under the ROIC substrate. The first buffer layer is capable of minimizing the stress caused by heat from the IR sensor.

Please amend paragraph [0043] of the specification, as published, as follows:

[0043] The upper layer 200 includes a first insulating layer 201 for electronic insulation, a bolometer layer 202 thereon with a predetermined shape, a second insulating layer 203 on both the first insulating layer 201 and the bolometer layer 202, and an absorption-transmission layer 204 on the second insulating layer 203. Etching holes, which reduce an etching time, and relieve the physical stress of a unit pixel, are positioned on the upper layer 200 with a diameter less than 5㎛. In addition, insulation cuts for thermal insulation are positioned on the upper layer 200 with a width less than 5㎛. The first and second insulating layers have a thickness ranging between 300Å and 1500Å and are made of silicon oxide (SiO_2). Furthermore, the upper layer 200 may include etching holes 205 for removing a sacrificial layer (not shown) and insulation cuts 206 for thermal insulation.

Please amend paragraph [0046] of the specification, as published, as follows:

[0046] Next, referring Figs. 6 and 7, an upper layer 200 of still another bolometric IR sensor having a two-layer structure comprises a first insulating layer 220, a second buffer layer 221

thereon, and a bolometer layer 222. Here, the first insulating layer is preferably silicon oxide (SiO_2) with a thickness ranging between 0.65±0.1㎛. The second buffer layer 221 is preferably made of a material comprising silicon ~~nitreide~~ nitride (SiN_x) with a thickness between 0.2±0.05㎛. The bolometer layer 222 on the top of the second buffer layer is preferably made of a material comprising Ti or TiO_x (x=1 to 3). The bolometer layer has a thickness ranging between 300Å and 1500Å for Ti, and between 500Å and 5000Å for TiO_x. In order to relieve stress, the first insulating layer and the second buffer layer may be alternately and repeatedly formed under the bolometer layer 222. Subsequently, a second insulating layer made of silicon oxide 223 is formed on the bolometer layer 222, and an absorption-transmission layer 224 is placed thereon. Insulation cuts (not shown) are formed on the upper layer 200.

Please amend paragraph [0054] of the specification, as published, as follows:

[0054] Referring to Fig. 12, an ROIC substrate 131 including read access terminals thereon is prepared. Subsequently, connecting terminal 134, electrode pads 135 and reflective metal layer 132 are deposited by vacuum deposition or sputtering processes, and patterned. A first buffer layer may be formed for insulating and separating pixels before the electrode pads 135 and the reflective metal layer 132 are patterned. Here, the first buffer layer is made of a material comprising silicon nitride.

Please amend paragraph [0056] of the specification, as published, as follows:

[0056] Subsequently, referring to Fig. 14, a bolometer layer 232 is formed on the sacrificial layer 350a, and an absorption-transmission layer 234 is deposited on the bolometer layer. Via holes 450 penetrating to the electrode pads 135 and insulation cuts (236 in Fig. 8) are then formed within the sacrificial layer, the bolometer layer and the absorption transmission layer of the resulting structure. The ~~bolomter~~ bolometer layer 232 is preferably made of either an N type or a P type amorphous silicon with a thickness ranging between 500Å and 3000Å.